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Probability structures in subspace lattice approach to foundations of quantum theory

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Abstract

© 2015, Springer Science+Business Media New York. Noncommutative measure and probability theory develops parallel to classical probability theory. In our paper, we summarize recent results on the structure of subspaces affiliated with von Neumann algebras and noncommutative measures defined on them. We show the interplay of ideas from classical and noncommutative measure theories based on general inner product spaces and bring new examples in this area.

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Keywords

affiliated subspaces, noncommutative measures, von Neumann algebras